

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-2 (Canceled).

Claim 3 (Currently Amended): A gateway device connected to a mobile communication network, an external network, and a service control device which executes service control based on packet signals received from a communication terminal or a predetermined communication device, so as to transmit and receive packet signals to and from the service control device, the gateway device comprising:

a receiver configured to receive control information, required for providing a plurality of services, from the service control device, the control information generated by a service management device connected to the service control device and including rules or policies defined for each of the plurality of services; and

an information processor configured to perform a predetermined information process for a packet signal received from the mobile communication network or the external network based on the control information, wherein each rule or policy included in the control information specifies processing for the packet signal, wherein

the information processor comprises a gateway rule retainer and a gateway rule executor,

the gateway rule retainer is configured to retain a gateway rule given through the service control device, and

the gateway rule executor is configured to execute a gateway process by applying the gateway rule to packet signals, which are received from the service control device, the mobile communication network, the external network, and the communication terminal or the predetermined communication device contained in the mobile communication network or the external network. The gateway device according to claim 2, wherein the gateway rule comprises comprising at least one of

protocol conversion information on protocol conversions which should be executed in the gateway device when packet signals are transferred among the service control device, the mobile communication network, and the external network;

information extraction information on information which should be acquired in the gateway device from the packet signals transmitted from the service control device, the mobile communication device, or the external network;

packet allocation information on packet allocation performed in the gateway device to a connection processor containing a network and the communication terminal or the communication device for the packet signals transmitted from the service control device, the mobile communication network, or the external network;
and

information accumulation information on a packet signal which should be accumulated in the gateway device among the packet signals transmitted from the service control device, the mobile communication network, or the external network,
and

the gateway rule executor is configured to execute a protocol conversion process in accordance with the protocol conversion information defined by the gateway rule, an information extraction process in accordance with the information extraction information, a packet allocation process to the connection processor in accordance with the packet allocation

information, or an accumulation process of the packet signals in accordance with the information accumulation information, for the packet signals received from the service control device, the mobile communication network, the external network, or the communication terminal or the predetermined communication device contained in the mobile communication network or the external network.

Claim 4 (Canceled).

Claim 5 (Currently Amended): A gateway device connected to a mobile communication network, an external network, and a service control device which executes service control based on packet signals received from a communication terminal or a predetermined communication device, so as to transmit and receive packet signals to and from the service control device, the gateway device comprising:

a receiver configured to receive control information, required for providing a plurality of services, from the service control device, the control information generated by a service management device connected to the service control device and including rules or policies defined for each of the plurality of services; and

an information processor configured to perform a predetermined information process for a packet signal received from the mobile communication network or the external network based on the control information, wherein each rule or policy included in the control information specifies processing for the packet signal, wherein

the information processor comprises a connection path selection rule retainer and a connection path selection rule executor,

the connection path selection rule retainer is configured to retain a connection path selection rule given through the service control device, and

the connection path selection rule executor is configured to apply the connection path selection rule to the packet signal received from the mobile communication network, the external network, or the service control device, so as to determine a destination of the packet signal and to transfer the packet signal to the destination. ~~The gateway device according to claim 4, wherein~~ the connection path selection rule comprising comprises at least one of:

service type information on service prepared by the service control device or a contents and service provider in the external network;

source information of the packet signals of a service control device, a mobile communication network, an external network, or a communication terminal or a predetermined communication device contained in the mobile communication network or the external network, which are expected in advance to transmit the packet signals; [[and]]

destination information of the packet signals which are expected in advance to designate as the destination of the packet signals by the network or the device, and

the connection path selection rule executor is configured to identify the source information, the destination information, and the service type information of the packet signals, to judge the destination of the packet signals by applying the information described on the connection path selection rule, and to transfer the packet signals to the corresponding destination, when receiving the packet signals transmitted from the service control device, the mobile communication network, the external network, or the communication terminal or the predetermined communication device contained in the mobile communication network or the external network.

Claim 6 (Canceled).

Claim 7 (Currently Amended): A gateway device connected to a mobile communication network, an external network, and a service control device which executes service control based on packet signals received from a communication terminal or a predetermined communication device, so as to transmit and receive packet signals to and from the service control device, the gateway device comprising:

a receiver configured to receive control information, required for providing a plurality of services, from the service control device, the control information generated by a service management device connected to the service control device and including rules or policies defined for each of the plurality of services; and

an information processor configured to perform a predetermined information process for a packet signal received from the mobile communication network or the external network based on the control information, wherein each rule or policy included in the control information specifies processing for the packet signal, wherein

the information processor comprises a screening policy retainer and a screening policy executor,

the screening policy retainer is configured to retain a screening policy sent through the service control device, and

the screening policy executor is configured to apply the screening policy to the packet signals received from the mobile communication network, the external network, or the communication terminal or the predetermined communication device contained in the mobile communication network or the external network, so as to judge the correctness of the packet signals and to discard an inappropriate packet signal, The gateway device according to claim 6, wherein the screening policy comprising comprises at least one of:

information indicating a protocol type which allows transfer of the packet signals, a port number, and a direction of of ~~[[the]]~~ packet signals flow, in the gateway device;

information for judging the correctness of an original protocol defined to mutually connect the service control device, the mobile communication network, and the external network; and

information indicating a limit of packet process capabilities of the service control device and the gateway device, and

the screening policy executor is configured to execute a process for judging the protocol type and the port number of the packet signal and the direction of the packet signals flow and for additionally judging the correctness of the original protocol when the packet signal is transmitted on the original protocol; a process for transferring packet signals, which are allowed to be transferred by the screening policy, in the gateway device and for discarding packet signals, which are not allowed to be transferred, in the gateway device, or a process for discarding the packet signal in the gateway device to avoid congestion when the packet signals more than the limit of the process capabilities of the service control device or the gateway device defined by the screening policy are transmitted, when receiving the packet signals transmitted from the mobile communication network, the external network, or the communication terminal or the predetermined communication device contained in the mobile communication network or the external network.

Claims 8-9 (Canceled).

Claim 10 (Currently Amended): A gateway device connected to a mobile communication network, an external network, and a service control device which executes service control based on packet signals received from a communication terminal or a predetermined communication device, so as to transmit and receive packet signals to and from the service control device, the gateway device comprising:

a receiver configured to receive control information, required for providing a plurality of services, from the service control device, the control information generated by a service management device connected to the service control device and including rules or policies defined for each of the plurality of services;

an information processor configured to perform a predetermined information process for a packet signal received from the mobile communication network or the external network based on the control information, wherein each rule or policy included in the control information specifies processing for the packet signal;

a signal converter configured to convert the packet signal, a destination of the packet signal being determined in the gateway device to be the service control device, among packet signals from the mobile communication network, the external network, or the communication terminal or the predetermined communication device contained in the mobile communication network or the external network, from an original protocol into a protocol associated with a service type executed in the service control device, so as to transmit the packet signal to the service control device, to receive control information and service process results processed in the service control device, and to perform inverse conversion of the packet signal conversion, the service type including a service providing location information; and

a signal exchanger configured to exchange packet signals between the signal converter and the mobile communication network or the external network containing the communication terminal or the predetermined communication device, ~~The gateway device~~
~~according to claim 9;~~ wherein

the signal exchanger is configured to define individual service control device interfaces for each of the service types for the service control device, to transfer the packet signal converted in the signal converter to the service control device through a corresponding service control device interface among the service control device interfaces, to perform

~~performs~~, in the signal converter, the inverse conversion on the packet signal received from the service control device through one of the service control device interfaces, and to transmit the packet signal to a network, a communication terminal, or a communication device of the service request source.

Claim 11 (Currently Amended): The gateway device according to claim 10, wherein the signal exchanger comprises a service type identifier, and the service type identifier is configured to define individual network interfaces for each of the service types which the service control device can provide, to receive a service request signal from the mobile communication network, the external network, the communication terminal or the predetermined communication device contained in the mobile communication network or the external network, to exchange the service request signal to the signal converter through the network interfaces corresponding to the service types, and to transmit a received packet signal, on which the inverse conversion is performed in the signal converter, to the network, the communication terminal or the communication device of the service request source through one of the interfaces.

Claims 12-13 (Canceled).